

REMARKS

Claims 1-11 are rejected under 35 U.S.C. § 102(b) as being anticipated by Perry *et al.* (US 3,773,844; hereinafter “Perry”). Applicants respectfully traverse the rejection, because the Perry does not teach each and every element of the claimed invention, and teaches away from the claimed invention, as discussed below.

As recited in claim 1, the present invention is directed to a facilitated transport membrane for separating alkene hydrocarbons from hydrocarbon mixtures under dry operating conditions. Such membrane comprises a porous supported membrane and a transition metal salt-polymer membrane composed of a transition metal salt and a polymer having no functional group, which is capable of forming a complex with the transition metal salt.

The key feature of the present invention is to use a composite membrane comprising a porous supported membrane and a transition metal salt/polymer membrane coated thereon for separating alkene hydrocarbons from hydrocarbon mixtures under dry operating conditions, wherein the transition metal salt is physically dispersed within the polymer.

On the other hand, Perry relates to a membrane for separating an alkene from organic mixtures containing the same using a pervaporation technique. This membrane comprises a polymer and a metal salt. The pervaporation process is performed under wet and atmospheric pressure conditions.

It should be noted that the membrane of Perry does not comprise a porous supported membrane having superior mechanical strength. Thus, the feed substance must be typically a liquid solution since a gaseous feed substance requires the application of high pressure (e.g., 40 psig) to the top portion of the membrane (*see* page 14, columns [0044] of the present specification).

However, such membranes disclosed in Perry require the feed of a liquid solvent (e.g., water), which must be removed from the separated alkenes. Thus, said membranes causes problems (e.g., requiring the use of a liquid solvent for separating gas-phase mixtures such as alkene/alkane mixtures, thereby causing the loss of solvent), as described in the present specification (*see* pages 4 and 5, columns [0012] to [0014] of the specification).

In view of the foregoing, Perry fails to teach or suggest each and every claim element of the claimed invention. Indeed, the reference teaches away from the claimed invention. Thus, the claimed invention is not anticipated by Perry, and the rejection of claims 1–11 under 35 U.S.C. § 102(b) as anticipated by Perry should be withdrawn.

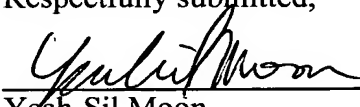
CONCLUSION

Applicants respectfully request that the foregoing remarks be made of record in the file of the above-identified application. Applicants believe that all pending claims are in condition for allowance. Withdrawal of the Examiner's rejection, and allowance of the application, are respectfully requested. If any issues remain in connection herewith, the Examiner is respectfully invited to telephone the undersigned to discuss the same.

No fee is believed due in connection with this response. In the event that a fee is required, please charge any such fees to Jones Day Deposit Account No. 50-3013.

Respectfully submitted,

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